

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/005616 A2

(51) International Patent Classification⁷: C12N 1/00

(21) International Application Number:
PCT/NL2004/000503

(22) International Filing Date: 12 July 2004 (12.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/NL03/00514 11 July 2003 (11.07.2003) NL

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(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished
upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: COMPOSITIONS AND METHODS FOR STABLE ISOTOPE LABELLING OF BIOLOGICAL COMPOUNDS

(57) Abstract: The present invention is concerned the labelling of biological compounds with stable isotopes such that the three-di-
mensional structure of the biological compounds may be analysed by e.g. NMR spectroscopy. The invention employs microorgan-
isms that are grown on mineral media comprising carbon and nitrogen sources that contain stable isotopes to produce biomass that
is uniformly labelled with stable isotopes. The biomass may be autolysed to produce an autolysate. The biomass may further be
extracted with organic solvent to produce lipids. The (delipidised) biomass is hydrolysed to produce labelled amino acids and other
nutrients, which are used together with the autolysate, extracted lipids and further components to compose a culture medium for a
mammalian or insect host cells for the production of biological compounds that are uniformly labelled with stable isotopes. The
biological compound preferably is a biological acromolecule, such as e.g. a mammalian membrane protein.



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